Remarks

Favorable reconsideration of this application is requested in view of the following remarks. For the reasons set forth below, Applicant respectfully submits that the claimed invention is allowable over the cited references.

The final Office Action dated July 19, 2004, indicated that claims 2-5 and 11-28 are allowed; claims 1, 7 and 9 are rejected under 35 U.S.C. § 103(a) over *Berthoumieux et al.* (European Patent 0 447 302, English translation) in view of *King* (U.S. Patent No. 6,300,899); claim 6 is rejected under 35 U.S.C. § 103(a) over *Berthoumieux et al.* in view of *King* and *Krasner* (U.S. Patent No. 5,841,396); and claims 8 and 10 are rejected under 35 U.S.C. § 103(a) over *Berthoumieux et al.* in view of *King* and *Cidon et al.* (U.S. Patent No. 4,991,7[1]72).

Applicant appreciates the allowance of claims 2-5 and 11-28.

Applicant respectfully traverses each of the Section 103(a) rejections because the Office Action fails to present a combination of references that correspond to the claimed invention. For example, none of the references behind the Section 103 rejections teach the claimed aspects concerning the first and second time intervals. The Office Action acknowledges that the '302 reference fails to expressly teach the claimed first time interval, which is defined as being greater than the claimed second time interval (page 3, paragraph 7). Notwithstanding, the Office Action attempts to equate a "time instant" (when the '302 circuit is in a reduced activity mode or regular mode) to the claimed "time interval." In direct contrast to this rationale, the '302 reference explains that these alleged "time instants" (corresponding to activity modes) are quite different from "time intervals." Claim 1 of the '302 reference (available from Delphion and attached herewith), for example, expressly states that the Examiner's alleged second "time instant" would be equal to the Examiner's alleged first "time instant." With reference to the attached copy, claim 1 of the '302 reference clearly states that its time multiplex system has its "time control member 4 for controlling a speed of operation of clocks associated with the digital processing unit ..., characterized in that it comprises means for reducing the activity of the digital processing unit during transmission and/or reception of radio signals." Thus, with regard to the '302 reference, the Examiner's alleged second "time instant" would not be less than the Examiner's alleged first "time instant."

With respect to the Examiner's digital-is-faster theory per the '899 reference, this theory is inapplicable to the '302 reference and cannot be used to overcome the deficient teachings of the '302 reference. As acknowledged in the figure and claims of the '302 reference, the '302 time-multiplex system specifically defines the alleged intervals during which the digital circuit has reduced activity. The '899 reference is used in the Office Action to advance the Examiner's argument regarding an issue of clock speed under the erroneous assumption that the '302 reference is not specific on how its digital-circuit clocks are operated. Thus, the Examiner's assertion that the '302 reference teaches longer instants corresponding to the reduced activity of the digital processing unit contradicts the '302 express teaching that these alleged "instants" correspond to the pre-defined time-multiplex intervals for the transmission and reception of radio signals. The fact that time-multiplex systems, such as that of the '302 reference, have pre-defined equal time intervals for radio communication is well known. *See* pages 377-378 of Stremler Text (Attachment No. 2). Therefore, the "instant" where the digital processing unit is operational would at least be equal to the "instant" where radio signals are received and the digital processing unit is in a reduced mode. The Office Action therefore has not presented correspondence to each of the claimed limitations. Without such a presentation, the Section 103(a) rejections are improper and cannot be maintained. Applicant requests that the rejections be withdrawn.

With particular respect to the rejection of claim 7, Applicant respectfully traverses because the difference between the intervals is significant and the '302 reference clearly teaches that the alleged instants/intervals are identical.

With particular respect to the rejection of claim 8, Applicant respectfully traverses because the skilled artisan would not be motivated to modify the '302 reference as proposed by the Examiner. First, the Office Action does not identify where the '302 reference includes such a claimed memory being controlled by asynchronous clocks; therefore, the Office Action's rejection cannot be maintained. Second, the '302 time-multiplex system has no need for, and teaches away from, such use of asynchronous clocks. Claim 1 and its related description and figure clearly teach the use of only one clock and clock control circuit to coordinate the activities of the analog-digital converter and the digital processing circuit. Thus, the Office Action proposes a modification directly in contrast to the operation and claimed invention of the '302 reference. *See* MPEP § 2143.01; *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). Moreover, the time-multiplex system of the '302

reference does not have the same issues as those for the secondary '772 reference and does not have need for accessing memory in an asynchronous manner. The Office Action has failed to cite any evidence that the skilled artisan would be motivated to implement the proposed modification, the '302 reference clearly teaches away from proposed modification, and the proposed modification would undermine the purpose of the '302 reference. For the reasons discussed above and for the failure to present the requisite motivation, the Section 103(a) rejection of claim 8 is improper and Applicant requests that the rejection be withdrawn.

As a further comment in connection with first Attachment (last page of EP 0447302B1), Applicant submits that the rejections in view of the *Berthoumieux* reference are improper because the Examiner appears to have failed to provide all of the information upon which the rejections appear to be based. The rejections relying upon the *Berthoumieux* reference refer to an "English translation." This notation is ambiguous as Applicant is unable to ascertain whether this notation refers to a translation of the entire reference or merely the provided (translated) Abstract. Applicant is entitled to access to any information the Examiner relies upon as a basis for the rejection's rationale. *See* 35 U.S.C. § 132, MPEP § 706.02(II), and the Federal Rules of Evidence (*see, e.g.*, FRE 106). According to 35 U.S.C. § 132, in presenting a Notice of Rejection, whenever any claim for a patent is rejected, the Applicant shall be notified of the rejection along with a statement of the reasons for such rejection, "together with such information and references as may be useful in judging of the propriety of continuing the prosecution of his application." If the Examiner has relied upon a translation of the entire *Berthoumieux* reference, or any other information, that has not yet been provided Applicant requests a copy of such information consistent with 35 U.S.C. § 132. In the alternative, Applicant requests that the finality of the rejections be withdrawn and to provide Applicant the opportunity to obtain a further translation of the *Berthoumieux* reference. In view of this ambiguity and the attachment (Attachment No. 1) which shows that at least the abstract of this reference has been taken out of context, Applicant submits that the rejections should not be maintained without an appreciation by Applicant of the complete teachings of the cited references.

As a final comment, Applicant disagrees with the Examiner's Response to Arguments and respectfully submits that the Examiner's arguments therein have confused issues of digital processor speed and duration of the asserted inactivity modes. As pointed out above, the '302 reference has its asserted reduced activity interval well defined. The reduced activity interval is not dependent on how fast or slow the clocks are used to operate the digital processing circuit in the '302 reference. Moreover, to modify the teachings from the '302 reference in this regard, is tantamount to mixing teachings out of context. Such a rejection is not permissible under Section 103. *See In re Kotzab*, 217 F.3d 1365 (Fed. Cir. 2000) (proposed modification must not be made in the abstract but rather made in view of the entire teaching of the prior art).

In view of the above discussion, Applicant believes that the rejections have been overcome and the application is in condition for allowance. A favorable response is requested. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is encouraged to contact the undersigned at (651) 686-6633.

Respectfully submitted,

CRAWFORD MAUNU PLLC
1270 Northland Drive, Suite 390
St. Paul, MN 55120
651/686-6633

Dated: September 16, 2004

By: _____
Robert J. Crawford
Reg. No. 32,122

Attachment No. 1: Last page of EP0447 302B1.
Attachment No. 2: Stremler Text, title page and pp. 377-378

As a final comment, Applicant disagrees with the Examiner's Response to Arguments and respectfully submits that the Examiner's arguments therein have confused issues of digital processor speed and duration of the asserted inactivity modes. As pointed out above, the '302 reference has its asserted reduced activity interval well defined. The reduced activity interval is not dependent on how fast or slow the clocks are used to operate the digital processing circuit in the '302 reference. Moreover, to modify the teachings from the '302 reference in this regard, is tantamount to mixing teachings out of context. Such a rejection is not permissible under § 103. *See In re Kotzab*, 217 F.3d 1365 (Fed. Cir. 2000) (proposed modification must not be made in the abstract but rather made in view of the entire teaching of the prior art).

In view of the above discussion, Applicant believes that the rejections have been overcome and the application is in condition for allowance. A favorable response is requested. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is encouraged to contact the undersigned at (651) 686-6633.

Respectfully submitted,

CRAWFORD MAUNU PLLC
1270 Northland Drive, Suite 390
St. Paul, MN 55120
651/686-6633

Dated: September 16, 2004

By: _____
Robert J. Crawford
Reg. No. 32,122

Attachment No. 1: Last page of EP0447 302B1.
Attachment No. 2: Stremler Text, title page and pp. 377-378

à l'unité de traitement numérique et à l'organe de conversion analogique/numérique, caractérisé en ce qu'il comporte des moyens pour réduire l'activité de l'unité de traitement numérique pendant l'émission et/ou la réception de signaux radio.

2. Dispositif de radio communication selon la revendication 1, caractérisé en ce que la réduction d'activité de l'unité de traitement numérique est obtenue par abaissement de la vitesse de fonctionnement d'au moins une horloge (7) associée à cette unité de traitement numérique.

Patentansprüche

1. Einrichtung für Zeit-Multiplex-Funkkommunikation zum Senden und Empfangen von Funksignalen, die durch Zeitintervalle getrennt sind, umfassend eine Antenne (1), ein mit der Antenne gekoppeltes Sender-Empfängerorgan (2), ein dem Sender-Empfängerorgan zugeordnetes Kanalwahlorgan (3), ein dem Kanalwahlorgan zugeordnetes Analog/Digital-Umwandlungsorgan (5), eine dem Analog/Digital-Umwandlungsorgan zugeordnete digitale Verarbeitungseinheit (6) und ein Zeitsteuerungsorgan (4) zur Steuerung einer Betriebsgeschwindigkeit von Zeitgebern, die der digitalen Verarbeitungseinheit und dem Analog/Digital-Umwandlungsorgan zugeordnet sind, gekennzeichnet durch Mittel zum Drosseln des Betriebs der digitalen Verarbeitungseinheit während des Sendens und/oder Empfangens von Funksignalen.

2. Funkkommunikationseinrichtung nach Anspruch 1, dadurch gekennzeichnet, daß die Drosselung des Betriebs der digitalen Verarbeitungseinheit durch Herabsetzen der Betriebsgeschwindigkeit zumindest eines Taktgebers (7) erreicht wird, der dieser digitalen Verarbeitungseinheit zugeordnet ist.

Claims

1. A time-multiplex radio communication device for transmission and reception of radio signals which are separated by time intervals, said device comprising an antenna (1), a transmitter-receiver member (2) coupled to the antenna, a channel selection member (3) associated with the transmitter-receiver member, an analog-digital conversion member (5) associated with the channel selection member, a digital processing unit (6) associated with the analog-digital conversion member, and a time control member (4) for controlling a speed of operation of clocks associated with the digital processing unit and the analog-digital conversion member, characterised in that it comprises means for reducing the activity of the digital processing unit during transmission and/or reception of radio signals.

2. A radio communication device according to claim 1 characterised in that the reduction in activity of the digital processing unit is achieved by reducing the speed of operation of at least one clock (7) associated with said digital processing unit.

Attachment No. 2

Introduction to Communication Systems

THIRD EDITION

Ferrel G. Stremler

University of Wisconsin, Madison

ADDISON-WESLEY PUBLISHING COMPANY

Reading, Massachusetts • Menlo Park, California • New York • Don Mills, Ontario
Wokingham, England • Amsterdam • Bonn • Sydney • Singapore • Tokyo • Madrid • San Juan

the assigned bandwidth of the low-pass filter. Because T does not depend on τ, the ratio τ/T is a measure of the flatness of $Q(\omega)$ and $Q^{-1}(\omega)$ within the bandwidth of the low-pass filter. For a rectangular pulse, it turns out that as long as $\tau/T \leq 0.1$, the maximum difference between $Q^{-1}(\omega)$ and the ideal low-pass filter over the required range is less than 1%. In practice, then, the equalization for PAM can usually be neglected as long as $\tau/T \leq 0.1$.

7.2 TIME-DIVISION MULTIPLEXING (TDM)

The use of fairly short pulse widths in PAM signals leaves sufficient space between samples for insertion of pulses from other sampled signals. The method of combining several sampled signals in a definite time sequence is called *time-division multiplexing* (TDM). We shall discuss the principles of TDM here with particular reference to PAM although the principles apply as well to other types of pulse modulation.

Suppose we wish to time-multiplex two signals using PAM. Two alternative methods for accomplishing this are shown in Fig. 7.7. Usually digital logic circuitry is employed to implement the timing operations shown in these diagrams. The use of FET's at lower frequencies, and the diode ring samplers discussed in Chapter 5 at higher frequencies is popular in realizing the sampling operations. The commutator determines the synchronization and sequence of the channels (signals) to be sampled.

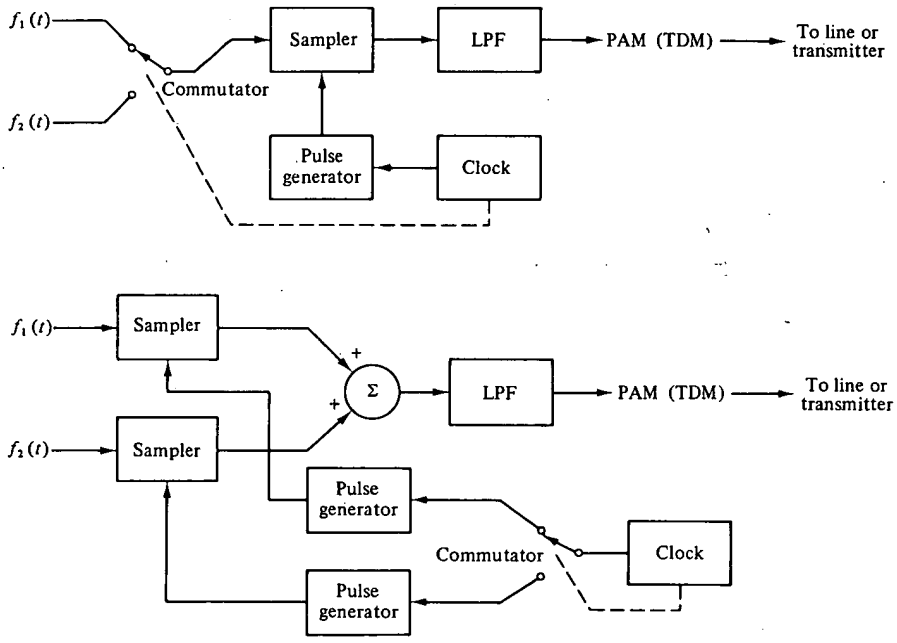

Figure 7.7 Generation of time-multiplexed PAM.